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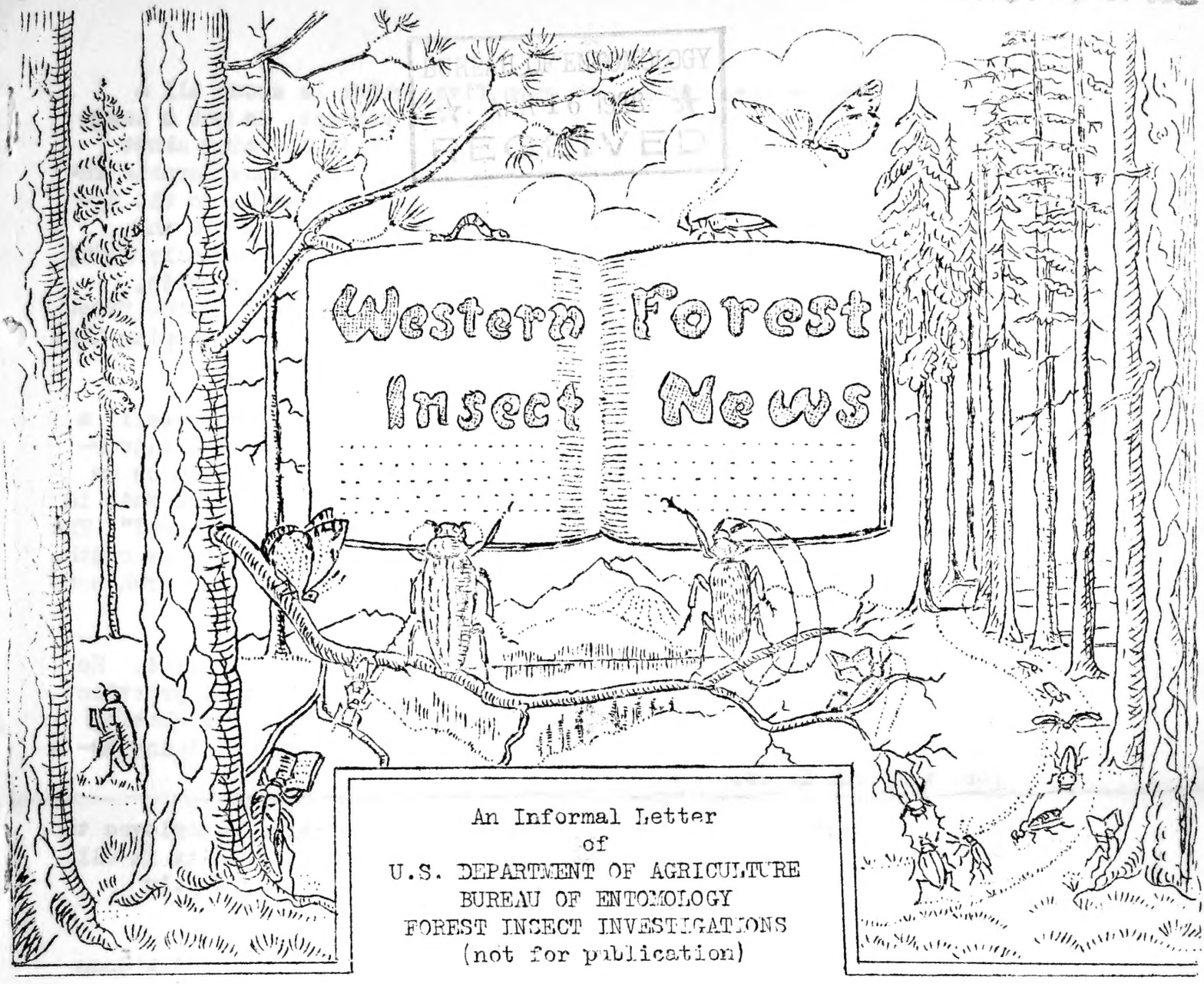


423 Jordan Hall, Stanford University, Calif., April 1, 1928

ARE THE COLLEGES TO BLAME?

by H. E. Burke

Not long ago the writer heard a prominent official with a number of forest school alumni in his employ say that he was "off" the graduates of a certain school because they were not willing to serve a reasonable apprenticeship in the work, but wanted to become leaders and supplant more experienced men almost as soon as they joined the organization. And this official is not alone in his tale of woe. Too often the college graduate shows plainly that he is not after the job, but the salary.

Where does the trouble lie? Is it reasonable for a young man just out of college to suppose that he is fitted to direct any work, or even to follow an independent line of research without supervision? Would it be a good thing for the man himself, even if the organization stood for it?

Two or three years, or even five, which is about all a college man ever spends on his major while a student, is not a large part of life. Most of this time, too, is spent in learning about the work rather than actually doing it. He may have considerable information, but does he have any actual knowledge? Can he do the usual work at which he is placed as well as the scientific aid who, while he may not have had a college training, has been actually doing the work in hand for three, four or more years? In other words, isn't the college man more of a liability than an asset for the first few years? The employer tolerates him for the time being, hoping that he may be worth something later on.

The following anecdote illustrates this point very well: a young friend of the writer, just graduated from a well-known university, went to work for a bank at $100 a month. He was placed on an adding-machine job and said to his employer, "Don't you think this is too low a salary for anyone who has spent four years in college?" The banker replied, "We can get good adding-machine men for $80 per month. We are paying you $100, hoping that you will develop and be worth more to us later."

The college graduate must remember that he is untried. He may be a good learner, but he hasn't as yet shown in actual practice what he can do; and one is paid for what he can do, not for what he knows--although it is true that most people have to know a thing before they can do it.

Isn't it fair for an employer to expect the new employee to undergo a thorough apprenticeship and demonstrate his ability in all the lines of work appertaining to the job before he is actually placed on his own in a position of responsibility?

Whether this is true or not, the colleges are falling down on the job if they do not impress upon the minds of their graduates before they leave the institution that they are not finished products, but merely in a position to commence their life work. What does Commencement Day mean if not this?

The career of many a promising young alumnus, if not wrecked is greatly retarded, because he leaves college with the idea that the employer upon whom he bestows his services is extremely lucky to get him, and that the "common herd" should stand aside and let such a promising young genius lead the procession. The "common herd" will be glad to follow a leader, but only after he has shown by actual work that he is capable of leading.

We blame the colleges for many things, but they probably do the best they can with the raw material they get. It does seem, however, that they are afraid to tell the graduate the actual truth about himself, for fear he will consider that he is cheated and his four years more or less wasted if apprised of the fact that he is not a finished product when he finishes the university. He is therefore cheated of the most valuable thing they could give him--a true estimate of his worth.

THE MISTLETOE BURN - TEN YEARS AFTER

The Mistletoe Burn is situated in southern Oregon. The fire, which occurred in October 1917, burned over 800 acres on the northeast slopes of the Siskiyou Mountains. An intensive study of the interrelation of fires and insects was carried out on the burned area and in the adjoining timber stands during the three subsequent years. The salient features of this study were published in 1927 in the Journal of Agricultural Research, under the title, "Preliminary Studies of the Relation of Fire Injury to Barkbeetle Attack in Western Yellow Pine".

The most striking feature of the burned area at the present time is the dense brush cover that has been produced on sites where the fire was most intense. This brush cover is composed mostly of manzanita, ceanothus and black oak.

Very little reproduction of conifers has occurred on the greater portion of the burned area. What little is present appears on sites where the fire was of a light surface character.

The present barkbeetle infestation is light and well below normal. This loss does not average more than 10 to 15 board feet per acre. It is confined to the western yellow pine and the beetle responsible is the western pine beetle. The recently-killed trees are scattered over the entire burned area. The status of this infestation is the same as that in the adjoining forested areas.

The ultimate effect of fire injury on the trees that survived the fire is indicated by the increment curves. Five classes of fire injury were recognized, ranging from very light to fire-killed. The trees that survived fall into the first four classes, Class IV being the most severely injured. The first effect on the trees was a sharp decline in the growth rate, shown by the narrow ring of wood formed in 1918, the first year following the fire. However, this suppression was only temporary, and normal growth rate was resumed the second year following the fire. Since that time the annual increment has equaled that of trees outside the burned area. J.E.P.

INSECT CONTROL IN MOUNTAINS REDUCES DAMAGE TO MINIMUM

San Bernardino forest property is becoming reasonably free of insect infestation due to concentrated efforts to destroy the pests, it was announced yesterday by R.H. Tuttle, county forester, upon his return from an inspection tour of the mountains in company with F.P. Keen, entomologist from the federal bureau of entomology at Palo Alto. Several days were spent by Mr. Tuttle and Mr. Keen in Big Bear Valley, Lake Arrowhead, Lone Pine Canyon and Wrightwood sections.

A new insect was found in the Big Bear region which has done some damage to pinon pines, but the attacks are scattered and early control is expected. (Clipped)

PIONEER DAYS IN FOREST ENTOMOLOGY

Among the first reports of insect damage to forests of the Pacific Coast region pertained to the dying of large bodies of Douglas fir and hemlock in the Oregon Coast region about 1889. This situation was one of the reasons for a trip made in 1899 by Dr. A.D. Hopkins, then of the West Virginia Agricultural Experiment Station, through the forest regions of the western states. Dr. Hopkins traveled under a temporary detail to the U.S. Department of Agriculture, and made a special trip into Clatsop and Tillamook Counties, Oregon, to investigate the trouble, which was reported to be caused by a defoliating caterpillar. However, he found only a dead forest. In his account of the trip Dr. Hopkins writes:

"May 9 I proceeded to Seaside, Oreg., where I learned of a serious trouble affecting the timber some 14 miles back on the Coast Range in the vicinity of Ahlers. I at once secured a guide and horses and proceeded some 7 miles that night. The next morning we followed a trail through the dense and magnificent forest here to Ahlers, where the timber, as far as could be seen in all directions, was dead. The trees had been dead 8 or 9 years; hence it was not possible to personally investigate the cause of the trouble. I was particularly fortunate, however, in obtaining from the postmaster, Mr. Herman Ahlers, a most interesting account of the beginning and ending of the trouble as observed by him at the time. It seems that the trees were defoliated, probably by a geometrid larva, in 1890-91, and that nearly all of the hemlock and Tideland spruce on an area lying between 450 and 1200 feet above sea level in the southern half of Clatsop and the northern half of Tillamook Counties died as a direct result of this defoliation."

In 1902 H.E. Burke spent a season at Grays Harbor, Washington, and made a special search for this insect. Apparently the defoliator had left a vanishing trail. Not until 30 years later, or about 1918, did it again appear in numbers on the Oregon coast. It was then found to be the hemlock looper, Therina somniaria Hulst. A tremendous flight of the moths occurred in the Nehalem River watershed in the fall of 1918. This was followed by a defoliation in 1919 and 1920 that resulted in the killing of 400 million feet of fir and hemlock. Following this outbreak the looper again disappeared for the conifer type, although it occurs sporadically on the oaks in the Willamette Valley. Will the historian of the future record another thirty-year interval between epidemics? J.M.M.

JUNIPER KILLED BY CERAMBYCID BORERS

Reports of dying juniper have been prevalent in the Southwestern District for a number of seasons. The primary causes of the trouble have not been thoroughly studied, but on the Verde division of the Prescott National Forest, forest officers have found that the living trees are attacked by a cedar bark borer, probably Hylotrupes amethystinum (Lec.). Forest Supervisor Grubb writes as follows:

"I am sending you under separate cover some specimens of alligator juniper bark and wood from a tree which was apparently attacked by some species of bark beetle within the last two years, since the needles had not all fallen and there was one live branch. Quite a number of trees in the same locality were similarly attacked. One piece of bark which I have marked was taken close to the point of attack, and shows a gallery no larger than those made by a Dendroctonus. By following these galleries out, it was found that nearly all reached the size of those in the wood specimens and terminated in a hole a little larger around than a wood pencil into the sapwood of the tree. Upon cutting one of these out, it was found that a chamber about the size of a man's little finger was in the wood, in which the insect had apparently gone through the pupa stage. The presence of a considerable amount of pitch around the galleries close to the points of attack indicates that the trees were alive when attacked and died from the girdling. Most of the trees were mature specimens, and some of them appear to have been in a thrifty condition at the time of attack. There are also one or two specimens of younger trees about a foot in diameter which had been killed. Fully fifty per cent of the juniper in one grove extending up and down a creek bottom for nearly a mile have been killed."

COELOIDES SPP. - PARASITES OF THE MOUNTAIN PINE BEETLE

During the time that studies of the seasonal and life history of the mountain pine beetle were being conducted in Crater Lake Park, Oregon, two species of Braconids were determined as being parasitic on this beetle. Since the percentage of parasitism of the broods studied was quite high, Coeloides spp. must be considered effective parasites.

The data presented were secured from the examination of 25 broods in 25 different check trees. The percentage of parasitism of these broods ranged from a minimum of 2.2% to a maximum of 37%, the average being 18.1%.

Very little is known of the life history of these species. They have been identified to genera only and are probably new to science. They pupate in parchment-like cocoons in the pupal cells of the host. Emergence occurs during the period from July 25 to August 20. Females have been observed ovipositing through thin bark into galleries of the mountain pine beetle in lodgepole pine. Both species are also parasitic on the Oregon engraver beetle, Ips oregoni. J.E.P.

CALL FOR A FOREST ENTOMOLOGIST

The Regional Forest Protection Board for Arizona and New Mexico met March 14 at the office of the District Forester, Albuquerque, N.M. Representatives of the National Park Service, Bureau of Indian Affairs, General Land Office, Weather Bureau, Bureau of Biological Survey, Bureau of Plant Industry and Forest Service were present.

Among the topics discussed was insect control. According to the opinions expressed by those present there has been a good deal of insect damage of various kinds in the forests of the Southwest, but for the most part the peak has been passed and the outbreaks are subsiding. District Forester Pooler stated that the Prescott Forest presented the only outbreak of Dendroctonus barberi requiring control measures, and that these are now under way. Superintendent Tillotson of the Grand Canyon National Park reported the Kaibab infestation of the Black Hills beetle under control, and a minor infestation south of the Canyon and in the adjoining Tusayan National Forest receiving attention.

Among the resolutions passed was the following:

Insect Control

It is recommended that in view of the prevalence of insect attacks of various kinds throughout the Southwest, an entomologist be permanently assigned to that section, so as to be available for independent or cooperative field observations and for consultation in an advisory capacity by the various agencies represented by the Board.

H.E.B.

ALTURAS MEETING CONSIDERS BARKBEETLE SITUATION

A special meeting of the Modoc County Development Board was called at Alturas March 9 to consider what steps could be taken to remedy the very serious situation that has developed as a result of timber destruction by barkbeetles.

Deputy State Forester W.B. Rider, Mr. S.R. Black, Secretary of the California Forest Protective Association, and F.P. Keen of the Bureau of Entomology were among the out-of-town speakers.

The extent and seriousness of the losses were brought out when it was shown that on the Happy Camp-Lava Beds district a loss of $1,265,000 to federal and private owners was involved. Since the county receives 35 per cent of the revenue from the sale of government timber, it suffered a loss of about $150,000 of potential future revenue from this one area alone.

The consensus of opinion of the meeting was that logging and salvage of the dying timber should be hastened and control operations carried on in advance of logging, in order to save as much timber as possible until it could be logged. A resolution to Congress was adopted, urging the appropriation of $250,000 for work on federal land, and another resolution sent to the Forester recommending the speeding up of salvage operations.

F.P.K.

MONTEREY CYPRESS DYING FROM NEW DISEASE

During the past year we have received numerous reports from central and southern California of dying Monterey cypress. Both old and young trees are succumbing in numbers. Fifty per cent of the trees planted in the Palo Alto High School grounds four or five years ago are dead, and similar reports have been received from Santa Cruz and Orange Counties.

The cypress cone moth, Laspeyresia (Carpocapsa) cupressana (Kearfott) is usually implicated in the trouble, and most of the inquirers want to know the life history and methods of control of this species. A study of the matter, however, soon indicated that the moth work is secondary, and that the real culprit is a disease. Dr. E.P. Meinecke, Forest Pathologist of the Bureau of Plant Industry, has identified this as a Coryneum species, and is making a study of it.

The Monterey cypress, Cupressus macrocarpa Gordon, occurs naturally in only two small areas around Carmel Bay, Monterey County, Calif. It has, however, been planted in numbers over most of California as an ornamental, hedge or windbreak tree.

At different times during the past fifty years it has suffered severely from several different enemies. About 25 years ago numerous large trees were killed by attacks of the barkbeetles, Phloeosinus cristatus (Lec.) and P. cupressi Hopk. Ten years ago its principal enemy was the cypress bark scale, Ehrhornia cupressi (Ehrhorn), but now we have this new disease causing most of the actual killing.

All the insects mentioned, however, still cause considerable damage, and the cone moth and barkbeetles may assist in the spread of the disease. The cone moth works in the disease cankers, and the barkbeetles kill many twigs on live trees by mining them for food or shelter. In moving from tree to tree they may carry the disease with them.

H.E.B.

FLATHEADED CONE BORER FOUND IN A NEW HOST

The flatheaded cone borer, Chrysophana placida (Lec.), has in the past been reported as a cone borer only in the product of the knobcone pine. Recently the California Experiment Station received a shipment of Coulter pine cones from southern California, all of which were infested with the cone borer. This species, however, did no damage to the seeds, mining only the woody part of the cone. Twenty per cent of the seeds were destroyed by a caterpillar, probably that of the moth, Laspeyresia miscitata Hein.

H.L.P.

BEETLE STATISTICS

Once upon a time, in the early days of forest entomology in the west, a young and ambitious "bug hunter" with a mathematical turn of mind sallied forth into the forest and began analyzing the private life of the western pine beetle in terms of inches of egg gallery, eggs per inch, attacks and exit holes per square foot of bark, and other statistical measurements. Little did he realize what an industry this pursuit of the pine beetle with a yardstick and tally register was destined to become!

To be more specific, this statistical approach to the pine beetle problem was started by the writer at Ashland, Oregon, in 1916; and since that time bark counting and brood analysis has been an annual and continuous indoor and outdoor chore; and through many tedious hours of clicking off beetle holes its devotees have roundly cursed the man who invented it.

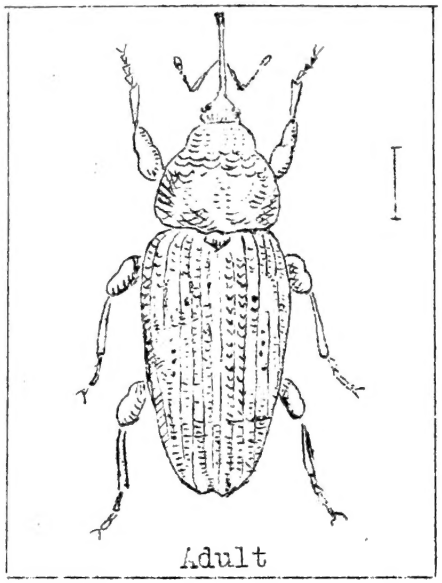
Now that twelve years have passed, over 4000 square feet of bark (enough to cover a city lot) have been put to the count, and enough records stacked up to fill one good-sized filing cabinet, we have arrived at the point of analyzing the records to see what they show, if anything, and to consider whether they are worth sweating and swearing over any longer. Fortunately, the application of statistical methods to the analysis of such masses of data has recently received considerable impetus and made the solution of the present problem feasible.

The analysis of the data is now nearing completion, and a report of the findings should be available before summer. So far some very valuable and interesting points have been brought to light.

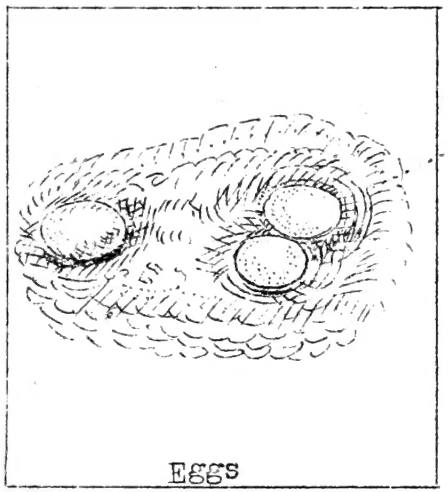
Following the first statistical work, Mr. Miller conceived the idea of continuing the counts over a period of years, in the hope of discovering some correlation between brood development and the rise and fall of epidemics that would help us in predicting the trend of an infestation. The analysis of the counts, however, shows that these relationships are complex and that predictions cannot be based solely on counts of brood emergence, but must take into account tree growth, weather factors and other conditions. Predicting on the basis of brood emergence alone is decidedly hazardous. A man might be lucky and hit it right in five years out of ten, but he would be wrong the other five years, which is no better than he might be expected to do in a straight out and out guess.

The extreme variability of brood emergence counts has been at times the despair of all who have worked with them, but we are now discovering that this labor was not in vain, and we may yet secure results from bark counts that are worth all the effort involved. F.P.K.

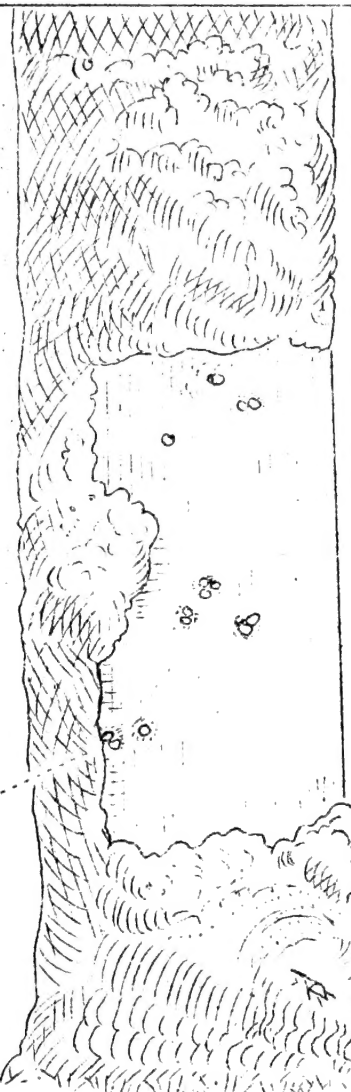
Seasonal history of the lodgepole pine weevil Pissodes murrayanae Hopk.

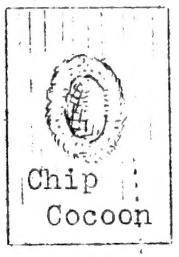


Adult



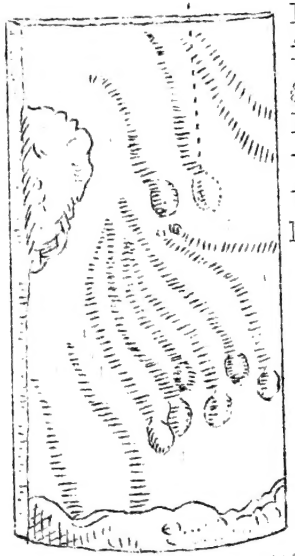
Eggs

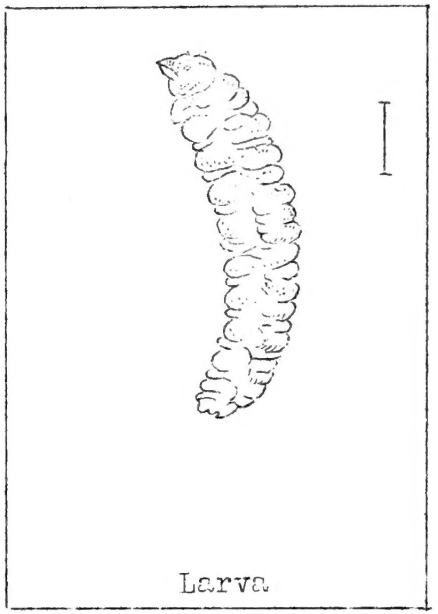




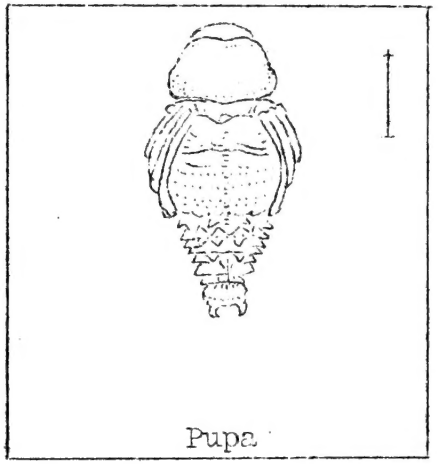
Chip Cocoon

Young weevils live cocoons in Sep. and go to needles to feed, then descend to ground to hibernate





Larva



Pupa

Weevils hibernating in needles on ground	Weevils emerge from hibernation in needles on ground. Lay eggs in bark on tree	Section of sapwood. Larval mines, pupal cls & chip cocoons	Young weevil entering hibernation	Weevils hibernating in needles on ground
January to May	June July	August	September	October November December

PERSONNEL CHANGES

Assistant Entomologist J.E. Patterson is taking four months leave, beginning April 1. Patterson is a forest owner as well as a forest entomologist, and having a good chance to sell his timber is going to take advantage of it. Through his experience in insect control work "Pat" has become a real timberman and is going to do his own logging.

Miss Dorothy Herdman, junior scientific aid at the Palo Alto laboratory, left April 1 for Yosemite Valley, where she will be employed at Camp Yosemite.

STATION VISITORS

Mr. William H. Thorpe of the Zoological Laboratory of Cambridge University, England, spent part of the day on March 17 at the Palo Alto Station. Mr. Thorpe holds an International Education Board fellowship, and is spending the winter at the Citrus Experiment Station of the University of California at Riverside, working with Professor Harry S. Smith on the problem of the biological control of insects. He was especially interested in our methods of barkbeetle control, modified as far as possible to protect the parasites and predators.

Mr. S.R. Black, Secretary of the California Forest Protective Association, was a welcome visitor on March 24. Mr. Black was connected with the Southern Oregon-Northern California Insect Control Project in 1922-24. He thoroughly understands forest insect control, is a strong believer in the forest insect protection policy, and is a stanch supporter of the movement to obtain adequate funds to make a thorough study of the western pine beetle.

CURRENT LITERATURE

KEEN, F.P.

Insect Enemies of California Pines and Their Control. Bul.7, Div.For.,Dept.Natural Resources,Calif.,March 1928, pp. 1-113, figs. 1-51.

A complete illustrated account of the more important insect enemies of California pines and methods of control, also keys for the field determination of insect species from the character of their work on the cones, foliage, bark or wood of the tree.